

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 January 2004 (22.01.2004)

PCT

(10) International Publication Number
WO 2004/008747 A3

(51) International Patent Classification⁷: **H04N 5/781**

(74) Agent: **TRIPOLI, Joseph, S.**; c/o Thomson Licensing Inc., 2 Independence Way, Suite 2, Princeton, NJ 08540 (US).

(21) International Application Number:
PCT/US2003/021974

(22) International Filing Date: 15 July 2003 (15.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/396,397 16 July 2002 (16.07.2002) US
60/430,558 3 December 2002 (03.12.2002) US

(71) Applicant (for all designated States except US): **THOMSON LICENSING S.A.** [FR/FR]; 46, Quai A. Le Gallo, F-92648 Boulogne (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **COMER, Mary, Lafuze** [US/US]; 2571 West 975 South, Fairmont, IN 46928 (US). **LIN, Shu** [IN/US]; 9339 D Notre Dame Drive, Indianapolis, IN 46240 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

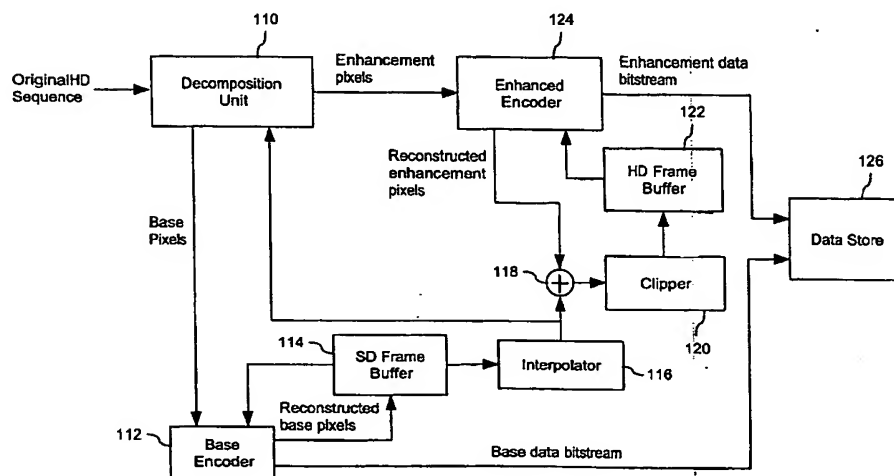
Published:

— with international search report

[Continued on next page]

(54) Title: INTERLEAVING OF BASE AND ENHANCEMENT LAYERS FOR HD-DVD

100



(57) Abstract: A method of providing multiple versions of a digital recording by using a first and second stream identification. The method can include the step of encoding a base layer (112) having data representing a first version of a digital recording. The base layer (112) can be encoded with a first stream identification, which can be 0xE0. The method also can include the step of encoding an enhancement layer with enhancement data (124) which can be combined with the base data to represent a second version of the digital recording. The enhancement layer (124) can be encoded with a second stream identification which can be 0xBF, 0xFA, 0xFB, 0xFC, 0xFD or 0xFE. The base and enhancement layers can be multiplexed.

WO 2004/008747 A3



(88) Date of publication of the international search report:
1 April 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(15) Information about Correction:

Previous Correction:

see PCT Gazette No. 10/2004 of 4 March 2004, Section II

REC'D PCT/PTO 14 JAN 2003 INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/21974

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04N 5/781

US CL : 386/124

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 386/124, 125, 126, 45, 46, 1, 37, 40

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,963,991 A (HONJO) 16 October 1990, column 3, line 1, to column 6, line 39.	1-21
Y	US 5,377,051 A (LANE et al) 27 December 1994, column 50, lines 41-68.	1-21

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

25 November 2003 (25.11.2003)

Date of mailing of the international search report

15 DEC 2003

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703)305-3230

Authorized officer

Bob Chevalier

Telephone No. 703-306-0347